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# The motivations and experiences of community garden participants in Edinburgh, Scotland

David McVey<sup>a</sup>, Robert Nash<sup>b</sup> and Paul Stansbie<sup>c</sup>

## ABSTRACT

This paper presents the perspectives of participants from three Community Gardens in Edinburgh, Scotland and investigates the role that food growing plays in their recreation and leisure activities, personal development, the development of their children and the impact on their communities. Thirty-eight participants were interviewed using qualitative, semi-structured questions to explore their motivations and experiences from their involvement with community gardens. Participant observation was used to better understand the importance of the gardens in their lives. The participants felt the gardens were places that fostered neighbourly engagement, increased leisure opportunities, social support, community health, connectedness, and community diversity. They were also places that promoted knowledge exchange inside the garden and in to the homes of the people and the community itself. Anxieties over land use and land reform highlighted how community gardens symbolised empowerment but also showed resistance to the hegemonic structure of local council and government. In effect, the research suggests that community gardens grow much more than just food, they grow community.

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## KEYWORDS

Community; motivation; leisure; Scotland; gardens


## JEL CLASSIFICATION

R11; R14; R58

## INTRODUCTION

In a contextual sense, ‘independence, economic wealth, and individual choice are indicative of a high quality of life, but our focus on achieving this status has contributed to the loss of Community’ (Sharpe, Mair, & Yuen, 2016, p. 5). In a variety of locations around Edinburgh, Scotland (UK), communities are working to create new and ethically significant food relationships and practices. These are seen as helping to assist a multitude of concerns, including health, increased leisure activities, community engagement, education and sustainability (Kneafsey et al., 2008).

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In addition, studies undertaken within a leisure context have proven that, besides food-security benefits, the interaction of fellow-minded gardeners has led to increased socialization benefits and the development of new friendships as a result of participation in a community gardening process (Porter & McIlvaine-Newsad, 2014).

Within this framework of community development, community gardens have become increasingly widespread in Edinburgh, with a drive towards community action and local, sustainable food practices. At the time of writing, according to the Edinburgh and Lothian's Greenspace Trust (ELGT), there are approximately 44 community gardens in and around Edinburgh, with new gardens being developed regularly (ELGT, 2015). Historically, community gardens have been developed on 'common good land' and the authors will argue below that they are examples of land reclamation, symbolizing the communities' ability to use waste or unused land for a purpose better suited to their needs: whether those needs are food production, community engagement, leisure-orientated activities or some other motive that may be politically or environmentally driven. Recent UK government initiatives have helped underpin this growth in Scotland. The Climate Challenge Fund, for example, set up in 2008, provides funding for community groups that are tackling climate change through local community-led projects.

The purpose of this research is to provide a detailed, representational and empirically grounded analysis of the activities of those who participate in community gardens. Furthermore, it will also contribute a detailed East Edinburgh perspective that is lacking in the body of research on community gardens. To understand what is motivating those who participate in community gardening, their experiences and the importance of these activities to the residents, this research was conducted in the heart of three communities in East Edinburgh. The research examines the people in those communities who are trying to make a difference to their own lives, and often the lives of their neighbours, through community garden participation and community development.

This research will commence by highlighting Scotland's relationship with urban gardening connected to allotment usage and tenure. It will briefly identify the differences between allotments and community gardens. Furthermore, it will examine the notion of 'community' and how its diversity parallels community garden models. The research will then look to the literature on community gardens to understand better the ways the gardens, and those who participate in them, have been examined in health, environmental, social, leisure and educational contexts and, more importantly, how the gardens have helped these communities evolve.

## LITERATURE REVIEW

### Community and community gardens

Sharpe et al. (2016, p. 4) suggest 'there are numerous definitions of community, with some focusing on social interaction, while others relate to geographical space and the functionality of community'. They suggest the term 'community' often refers to a geographical space such as a local neighbourhood. They describe a functional community as a community of purpose, with a shared activity or project that brings members together. They contend that there is a social and political philosophy called communitarianism, and at the heart of communitarianism is social relationships and the belief that community is needed for personal development and fulfilment. These views underpin much of this research, and for the purpose of this paper, the term 'community' is used in two main instances: geographical and social. Community is characterized throughout the paper when discussing both place and group, relating to the areas of Granton, Leith and Lochend in Edinburgh and the people who make up the community garden groups in those locations.

A community garden is defined as 'any piece of land gardened by a group of people, utilizing either individual or shared plots on private or public land' (Marin Master Gardeners, 2017). Tending of that space may reflect the motives of different stakeholders and take varying forms

from school and church gardens to community greening projects, therapy gardens and the cultivation of organic foods for individual consumption. Glover, Shinew, and Parry (2005) define community gardens as:

organized initiative(s) whereby sections of land are used to produce food or flowers in an urban environment for the personal or collective benefit of their members who, by virtue of their participation, share certain resources such as space, tools and water. (p. 79)

Their definition suggests ‘personal’ benefits as well as ‘collective’. They share similarities with allotment use and may create a misunderstanding that allotments and community gardens are the same thing. However, it is important to distinguish that an allotment is a plot of land made available for individual, non-commercial gardening or growing food plants. Plots are made by dividing a piece of land and they are publicly or privately owned and assigned to individuals or families on a lease or rent basis (typically by local councils). By law, plots cannot be used for residential purposes or financial gain. Such parcels are cultivated individually (Macnair, 2002).

A community garden can be seen as a collective space to which members of the community can contribute for social, cultural and environmental reasons. Within these broad topics, a diversity of participant motivations exist that tailor the character of the community garden.

### Health and leisure activities

The British Medical Association Scotland (BMAS) reports that, by 2030, almost 40% of the population will be obese, with many more suffering from heart disease and other health-related illnesses (BMAS, 2015). Its charge for healthier eating and increased exercise takes on greater importance as society becomes more reliant on convenience foods and adopts an increasing focus on more sedentary activities, as opposed to active leisure pastimes. This is supported by Stein (2008) who suggests that the health of communities may be improved not only through increased intake of fresh fruit and vegetables but also by the physical activity needed to produce that food. Community gardening can be an effective way of addressing issues related to healthcare within the population through a multitude of benefits relating to both physical and mental health (Kingsley, Townsend, & Wilson, 2009). These benefits are transmitted through exercise, healthy eating and connectedness, both biologically and culturally (Alaimo, Packnett, Miles, & Kruger, 2008; Armstrong, 2000; Kingsley et al., 2009; Stein, 2008; Teig et al., 2009; Wakefield, Yeudall, Taron, Reynolds, & Skinner, 2007).

Further research by Alaimo et al. (2008) indicates that individuals who participate in community gardens consumed 1.4 times more fruit and vegetables and were 3.5 times more likely to get their ‘five a day’ over those who did not participate. Their research also addressed the advantages of increased leisure-related activity by affirming that participation can benefit physical health, but fails to examine the social, cultural and economic reasons that may be considered a barrier to this.

The interconnectedness between leisure, recreation and the urban food movement has been well documented (Wakefield et al., 2007; Farmer, Chancellor, Gooding, Shubowitz, & Bryant, 2011; Amsden & McEntee, 2011; Farmer, Chancellor, Robinson, West, & Weddle, 2014). With an increased awareness of industrialized, mass food-production methods, consumer sentiment, in some regional sectors of society, is leaning more toward individual solutions to address healthier diets, food security, enhanced social capital and environmental justice (Porter & McIlvaine-Newsad, 2014). Amsden and McEntee (2011) even coined the term ‘agrilisure’ to identify the fun and interesting ways leisure-related activities connect to the cultivation and access to foods. These activities take many forms, but may include trips to local farmers’ markets, participation in agritourism experiences, support of local food movements or engagement in community-supported agriculture programmes, to name but a few. At the centre of these is a desire by

consumers to travel, support local businesses, better educate themselves about where their food originates, decrease their environmental impact, engage with their community and partake in recreational opportunities (Amsden & McEntee, 2011; Farmer et al., 2011). 'Participation in local food systems has recently emerged as an important and overlooked leisure behavior that is critical to community recreation agencies, sustainable development, and overall public health' (Farmer et al., 2014, p. 313).

### Education and knowledge exchange

According to a number of authors, community gardens can be places of learning and education (Bendt, Barthel, & Colding, 2013; Doyle & Krasny, 2003; Krasny, Russ, Tidball, & Elmqvist, 2014; Tidball, Krasny, Svendsen, Campbell, & Helphand, 2010; Walter, 2013). The scope of learning within community gardens may be able to address a number of social goals (Bendt et al., 2013). Coplan (2010) also suggests that community gardens can serve as a vehicle for building community cohesion across cultural divides, and that food becomes a medium so that resources and knowledge can be shared. Food as a 'medium' suggests that food is symbolic of the processes that underlie community garden participation and, in this instance, knowledge exchange becomes a motivation over the actual practice of food production.

Further studies suggest that community gardens could help to foster environmental resilience within communities when faced with a sudden crisis such as a natural disaster, human-made conflict or a more gradual disturbance such as the most recent economic downturn (Tidball et al., 2010; Okvat & Zautra, 2011). This type of environmental resilience translates to food production, ecological support and sustainability, but also to social and cultural resilience by enhancing space for communication, information sharing and deliberate co-learning amongst a diversity of garden members (King, 2008). Thus, adaptability becomes the key to resilience by contributing to the ecological demand for sustainable food-production options with a dual emphasis on self-sufficiency and produce exchange (King, 2008; Okvat & Zautra, 2011). This is supported by Okvat and Zautra (2011) who identify that community gardens are often developed in times of crisis.

### Common good land and social capital

Mackenzie (2016) argues that due to an increase in land disputes, a shortage of available green space and lack of equitable rights to urban gardens, a movement in community activism and collective action is occurring. Built around an agenda of environmental justice, these vested stakeholders are empowering themselves to take action to seek out more opportunities to enhance the nutrition and health within their communities. In the context of regional studies, community gardens have been shown to contribute positively to the development of social and environmentally sustainable local communities, but are often difficult to evaluate and measure these benefits (Beilin & Hunter, 2011). Howe and Wheeler (1999) examined two cities in England – Bradford and Leeds – to highlight the resurgence of urban food growing in developed nations. Howe argued that urban food growing has a role to play in community well-being and cohesion as well as addressing issues about sustainability.

Barbier (1987) and Holland (2004) suggest that sustainable local development will be more effective if it operates at a 'grassroots' community level. This bottom-up approach, they argue, is often at odds with a more traditional economic development model, which assumes that national policies will filter down to communities regardless of how appropriate they are. They argue that community gardens can then be seen to represent a conflict of interest between the economic development model relating to city planning and affordable housing and the communities' use of the same suitable, yet sparse, areas of usable land. This argument was highlighted by Schmelzkopf's (2002) New York-based research where the long-term sustainability of community gardens and



their development were often uncertain, making future plans and developments for the gardens problematic as they could be taken back by the government at any time.

In Scotland, this can be likened to the use of 'common good land' by the community. Common good land is a special type of property, securities, civic regalia, land and buildings, owned by all the local authorities in Scotland and is legally distinct from all the other property they own. The largest amount of common good land in Scotland consists of public buildings, public spaces, parks and, in some cases, farmland. The distinction between common good land and the other property the local authorities own is that common good land is for the people of the communities of Scotland. Much of this land is unused land located in and around communities across Edinburgh.

The literature on community gardens highlights the role they can play in healthcare, learning, community-building and environmental stewardship, but many fail to examine community gardens as places of action that carry meaning beyond growing and the cultivation of food. A community garden could be an expression of the community it is in, the community that develops within the garden and the coordinators of the gardens themselves. Lawson (2004) states that:

the simple concept to provide a place for communal gardening can be obscured behind agendas that the garden facilitates, such as environmental restoration and community development. Because the success of many gardens relies on reaching out to a broad range of supporters, a complex web of influences determine the process of the garden creation as well as its sustainability over time. (p. 152)

Lawson writes of the change in focus that community gardens often go through, being places with 'simple' aims and community agendas to those with more politically driven motives, and could also be related to the structural barriers discouraging and preventing participation highlighted by Alaimo et al. (2008). These agendas are often clear as many community gardens are a part of a wider food-related movement seeking political and social change at local and national levels (Starr, 2010). These studies indicate that community gardens frequently use food and community as a means for forging social and economic justice, but often those who participate do so simply for food production and community aspects. As these lines become blurred, food production is used as a tool, for community control as well as to engage individuals with the realities of our present, destructive food system and the environment.

Participants may not share the same ideologies as each other as well with those who fund and coordinate it. This could create a division of 'social capital' that is dependent on the gardens' social, political or environmental agenda. Social capital is defined by Bourdieu (1984), and further developed by Putnam (2000) and Glover (2004), as a collective social asset that grants members 'social credits' that can be used as capital to facilitate actions that have a purpose. Social capital involves an investment in social relations that will result in a benefit or return for the individual furthering their own goals or agendas (Bourdieu, 1984).

Glover (2004) argued that the production of social capital in community gardens is often clear, but under-researched, and highlights the difficulty of distinguishing between social capital networks and place-based communities. However, some recent studies have begun to show these connections between social capital developed through horticultural activities and particularly their connections to leisure. Porter and McIlvaine-Newsad (2014) studied low-income populations working on rural community gardens motivated by a need to access healthier foods. These groups found that their initial motivations of leisure and physical activity were enriched further by unexpected benefits of increased socialization, the making of new friends and the development of internal social capital through increased gardening knowledge and shared abilities.

While the community garden is a symbol of collective achievement within the community, the process that led to its development can be associated with unequal access to social capital from members of the community. If the social capital network appeals to certain individuals in the community, it will presumably deter others depending on their motivations for being there.

For many, this translates into a cultural code of collective identity within a larger food and environmental movement; for others, it may create social or cultural exclusion. Studies suggest that as the community garden becomes more organized and structured, the dynamics of the garden can often change from what it was originally intended for, turning from a physical resource of leisure-related hobbies into a source for social action (Glover, 2004). Where gardens are set up with a particular purpose or from a personal vision, it would appear that what is grown becomes secondary to what else is achieved (Holland, 2004; Teig et al., 2009).

The research suggests that community gardens could foster various social, cultural, environmental and biological aspects, developing the resilience capacity of individuals, communities and the natural environment (Okvat & Zautra, 2011). Gardeners appear to experience the garden as a sanctuary from the pressures of the world, a setting for learning, social connectedness and place attachment, and a place of spirituality, physical leisure benefits and better food (Kingsley et al., 2009).

Dunlap, Harmon and Kyle (2013) argued that the very nature of social capital and its connections to people in a community undoubtedly has connections with an individual's sense of place. In their research examining 'place' as a vehicle to study social constructivism, the authors investigated an urban garden project in Austin, Texas (USA), and presented two key findings. The first was that because of their labour and the aesthetic change of the site, participants found a connection to both the land and the resulting commodities grown. Having tended the garden for a period of months, the resulting harvest had a greater sense of identity for the gardeners beyond simply a product to consume. In turn this led to wider considerations relating to production methods, processes and participant values.

Secondly, these attachments with the gardens and the resulting byproducts manifested into a wider association and identification with the community at large. The authors argue this social cohesion and sense of place generated by these activities interplay with leisure behaviour and state 'greater consideration is warranted for the acknowledgement of place in shaping leisure behavior' (p. 411).

In terms of the context of Scotland, a review of the literature highlighted two recent studies by Crossan, Cumbers, McMaster and Shaw (2016) that focused on Scotland and examined community gardens more closely, and the people who participated in them. Both set in Glasgow, Crossan et al. examined the subject of do-it-yourself (DIY) citizenship and neoliberal hegemony and argued that the community gardens provide an environment whereby both a sense of community and place are generated for participants as they engage equally in the accomplishments of the group. This is counter to Crossan et al.'s own viewpoint on citizenship, and they suggest these interactions offer an insight into the future of urban citizenry. The latter study by Shaw et al. examined the role played by community gardens as a new way to enhance social interactions, community-building and alleviate the challenges of destructive mass-production food systems.

This literature review has identified the study of community gardens from multiple lenses and has shown that, in the context of regional studies, a gap exists in the literature through which to examine a detailed representation of the activities of those who participate in this pastime.

## METHODOLOGY

The medium chosen for use in this research was the case study method because case studies can research assist in helping one to understand multifaceted social phenomena that allow for a strengthening of the qualitative nature of the research by holistically investigating the meaningful characteristics of real-life events such as community garden participation (Yin, 2003, 2009). In total, three case studies were used as the authors wanted to triangulate perspectives and produce an exemplar case that would increase the chances of producing generalizable findings (Flyvbjerg, 2006). Each case study exhibited a similar economic profile and was located in mixed-tenure,



low-to-mid-income areas that are culturally diverse and home to large migrant populations. Furthermore, each shares common challenges relating to economic deprivation and is in the process of broader urban regeneration master-planning activities (see <http://simd.scot/2016/#/simd2016/BTTTTTT/14/-3.1533/55.9603/>). In support of the case method, two techniques were used to collect the data. These included participant observation and two forms of semi-structured interviews.

### The case studies

The three community gardens used for this research were: Lochend Secret Community Garden, The Leith Croft and The Granton Community Garden.

#### *Lochend Secret Community Garden (Figure 1)*

Lochend Secret Community Garden is a charity-supported community food-growing project located in the south-east of Edinburgh in the mainly residential area of Lochend, and has been a community garden since 2011. The site is in the middle of a former council estate, which is now mixed tenure. The housing and tenements of the area are endowed with generous gardens to the front and rear of the tenements, with further accessible green spaces (Edible Estates, 2015). Its features include: growing spaces for 50 residents, a community shed and accessibility beds for participants with accessibility issues. It aims to provide training, advice and support for local people to grow their own fruit and vegetables on the previously unused space. The garden hosts various free events and socials throughout the year; this has become a vital part of the garden's development, to connect to the community, but also highlights the various issues relating to health and the environment that it aims to address.

#### *Leith Community Crops in Pots (The Leith Croft) (Figure 2)*

Leith Community Crops in Pots is a charity-based organization located in the east of Edinburgh, and has been developing a community garden since 2013. There are eight staff members and 90 volunteer members at the time of writing. There are approximately 50 plots in the croft, with work being done to double that number. Membership to the croft is £5 annually, and members are allocated plots that they share with other members. Membership to the croft is vital to the ongoing funding of the croft, as membership supports volunteer and environmentally based funding routes. Within this ruggedness, a diversity of growing plots, flowers, wildlife and community exists. Leith Community Crops in Pots grows food, encourages bees and other pollinators, practises organic and permaculture techniques promoting ecological learning, and supports community cohesion.

#### *Granton Community Garden (Figure 3)*

Granton Community Garden is a volunteer-based community organization located in the north-east of Edinburgh, and has been a community garden since 2009/10. There is one independent garden coordinator and a community committee of eight residents who also act as coordinators, making decisions on the development of the garden. The garden has a small greenhouse made by one of the garden participants out of recycled materials and a small locked shed containing tools and equipment. The site is in the middle of another former Edinburgh council estate, which is now mixed tenure. It is similar to other estates in Edinburgh, having generous gardens to the front and rear of the tenements with considerable corner spaces in between tenements that are fenced off and unused. The garden is formally one of these unused corner spaces, but was neglected and left to overgrow. The garden now produces a variety of vegetables and fruit, as well as flowers to encourage wildlife and pest management. Its aim is to grow food on unused street corners, encourage gardening and host meals for the community. Although this is the first and main garden by this group, they have developed three other similar gardens within the Granton



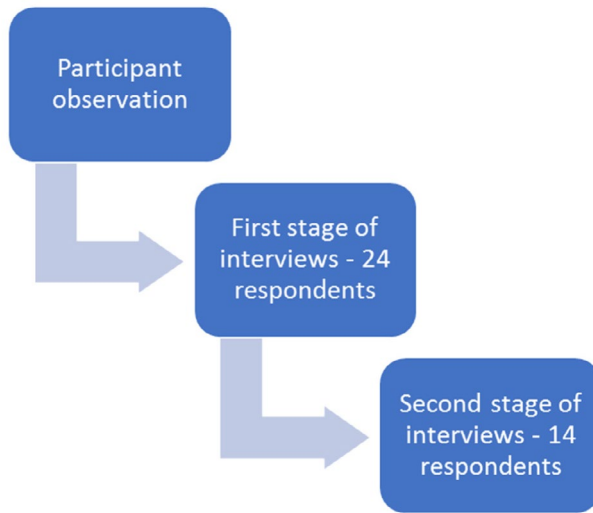
**Figure 1.** Lochend Secret Community Garden. Photo: author, 2015.



**Figure 2.** Leith Community Crops in Pots (The Leith Croft). Photo: author, 2015.



**Figure 3.** Granton Community Garden. Photo: author, 2015.



**Figure 4.** Methods diagram.



**Figure 5.** Land for the Common Good. Photo: author, 2015.

area, and are developing another three more. Participation in the garden is causally dependent on which garden needs the most attention, or what jobs need doing in them at any one time. There is no membership fee.

### *Participant observation*

Participant observation was selected as a data-collection tool for this study. According to Denzin (1970), this type of technique allows the researcher to experience the group and their experiences. The authors observed and participated in the activities of community gardening across three community garden projects in Edinburgh. The researchers spent a minimum of two hours in each, four times a week across all three gardens taking field notes, tending the gardens (with permission) alongside some of the participants and conducting interviews. This was done to gather data relating to the topics and themes of participant involvement, experiences and community garden development. The observations also proved beneficial to build trust between the research team and garden participants, resulting in more candid and insightful responses to the interview questions.

**Table 1.** Sample, pseudonyms and demographic information.

Sample	Gender, number	Age range (years); number	Country of birth, number	Examples of professions
38	Male, 12	30–40; 9	UK, 16	Retirees (majority of respondents)
	Female, 26	41–50; 8	International, 8	Teacher
		51–60; 10		Community worker
		61–70; 11		Project manager
				Council worker
				Government worker
				Small business owner
				Hairdresser
				Carpenter
				Information technology consultant
				Unemployed
				Charity worker – paid and volunteer
				Home-maker
				Student

### *Interviews and sample*

After a thematic analysis of the literature was complete, the themes and topics uncovered were used to inform and frame the interview. The questionnaire consisted of 23 questions related to the literature themes with an additional 10 questions used to collect further data about the structure and management of the gardens from the coordinators.

A pilot interview took place to gauge the structure and flow of the questions before undertaking the semi-structured interviews in two stages. The first involved 24 participants from three community gardens who were identified and interviewed using purposive sampling throughout June–July 2015. The second stage of semi-structured interviews was conducted in October 2015 and involved further data collection from the same three gardens. In total a further 14 interviews were conducted (Figures 4 & 5).

A summary of the participant's demographics is identified in Table 1.

## **RESULTS AND DISCUSSION**

Thematic analysis was used to identify substantive points or comments from the 38 interviews transcribed. The benefit of this approach allows the researcher to organize the transcribed data from the interviews and observation notes into specific themes. Analysis tables were created to organize the amount of data collected; these included examining any differences between the three community gardens and the variation in coordinator and participant responses. Thomas (2011) identifies that data triangulation is an essential part of the case study approach. This allows the researcher to view the data collected from multiple perspectives in order to draw conclusions based on the depth and breadth of those areas. In this case, the authors were able to connect the previously published literature to the insights shared through respondent feedback (thematic analysis) and to draw conclusions garnered from the participant observations. In total, 15 codes emerged from the data relating to motivations and experiences.

The second round of coding involved 'data aggregation' in order to combine categories that were closely related into usable and manageable sets for the write up of the findings (Mason, 2002). This also helped to categorize better the responses that could have been placed in more than one category. After this was complete, the categories that emerged from the second round of coding formed the findings and discussion of the research. The themes highlighted in the findings and the discussions form the headings in the findings section below.



## Food as community

Across the three gardens it was evident that food production symbolized more than just the growing of food and the cultivation of land. Many participants spoke about food production as their main motivation; however, many believed it to be more of a tool in addressing issues that faced their communities both socially and culturally, as indicated by Holland (2004), Lawson (2004) and Starr (2010). Two garden coordinators from Leith and Granton commented:

food gets everybody's juices going, it's something that matters to everyone, no matter who you are so actually you can use the food as a vehicle for wider social issues as well as food being important in itself.  
(coordinator 1C)

the anchor is the food growing and the range of foods we can grow ... we can produce a range of food ... biodiversity of what can be grown and produced in Scotland is what we are aiming to show and produce.  
(coordinator 2G)

Both coordinators talked about the importance of food as an 'anchor' and 'vehicle' for addressing issues on a wider, national scale. This supports the study by Holland (2004) about food production often being secondary to what else is achieved in the gardens. It also showed how coordinators often view the benefits of the gardens on a wider scale, as previously highlighted by Glover (2004), Kingsley and Townsend (2006) and Dunlap *et al.* (2013). Several participants developed this further by supporting the notion that food production can be a source of social bonding that is often unexpected, depending on the motivations for participating: 'I think food production is a way to create more social bonds, so I suppose the garden is about food production but also social aspects' (participant 7C).

Meeting members of the community for the first time was also an important motivation. Participants often commented on how neighbourly interaction was seen to be something that was lacking in their communities and that the gardens provided an outlet for that aspect. This was further confirmed during the participant observations where frequent breaks in the work resulted in social interaction and discussions around best practice. It was also evident friendships were starting to develop that had the potential to evolve outside the garden environment. Simply being neighbourly is perhaps the first step towards community cohesion and community development. The community gardens helped to advocate this in different ways, as participants commented:

'meeting people, you would not normally come in contact with ... people think it's good and want to support ... it's great seeing people who have lived next door to each other for years chatting' (coordinator G1).

This type of neighbourly community contact and engagement was a predominant finding throughout the field research and interviews, as participants often spoke of how they felt very little connection to those who lived in the community before the garden existed.

## Community health

The gardens were seen as places that promoted positive health and leisure benefits, which motivated individuals to explore them in different ways, as indicated by Alaimo *et al.* (2008) and Stein (2008). In one garden there was a concerted focus on the mental-health aspects that came from the garden. One participant from Lochend summarized this theme by stating:

A big part of what motivates the garden is mental health. It is nice for people to get out of their houses and spend time in the garden, working on something. It is quite mindful to get out and be productive ... this garden has been almost medicinal to me. (participant 1L)

The community gardens as places of leisure and ‘green therapy’ lends support to Wilson’s (1984) biophilia hypothesis from a mental-health perspective by demonstrating the health-giving properties of connectedness, as discussed in the literature above. The community gardens were used by participants as places to relieve stress and anxiety, but they were often more than that. The gardens became places of preventative healthcare, encouraging individuals in the community to utilize the mental health-giving properties that the gardens promoted through contact with the natural world.

The physical demand of community gardens was also apparent, and participants spoke about how gardens could be physically challenging (in a positive way), but surprisingly, the research indicates there was no real motivation by participants to take part, primarily because of exercise. It tended not to be their primary motivation but a secondary benefit derived as part of their efforts to maintain their gardens.

### Community diversity

Some of the literature acknowledges community gardens as places that foster cultural diversity; however, this research suggests this was not always the case. One community garden that supports the research by Armstrong (2000) and Augustina and Beilin (2012) was Granton: ‘We have a number of members originally from far overseas. From Bangladesh, Nepal, Kenya, so you then start to find out a little about their cultural attitudes, to begin with gardening and then it gets wider’ (coordinator 2G). From the participant observations, it was evident that through gardening practices this diversity is more than just knowledge exchange. Several of the older members who participated in the gardens suggested it was about cohesion and cementing the type of strong relationships that communities in an idealized past were once known for.

However, in contrast, the coordinators and gardeners from both the Lochend and Leith Croft garden commented on how their gardens lacked the type of diversity seen throughout their communities. This supports the research of Glover (2004) and Kingsley and Townsend (2006).

‘The garden has some diversity but it’s not a wide cross section of the community ... it’s not as diverse as it could be. There are 56 languages spoken in Leith primary, so it could be more diverse’ (coordinator 1C).

It is interesting that only one community garden demonstrated a recurrent cultural diversity that mirrored its own community. It appeared that the Granton garden was more culturally diverse not because the community itself had a higher migrant population, but due to the aims and agendas of the gardens that Glover (2004) and Kingsley and Townsend (2006) discuss in their research on social capital. All the respondents who were not born in the UK saw food production and community engagement as their main motivation. They were not secondary to other agendas, as Holland (2004) suggests, that can often come from the developed aims of the gardens, whether they be political, environmental or more socially directed. This suggests that the further the garden moves beyond food production and more toward places of action and political motivations, the weaker is the support from certain groups or individuals.

### Cooking and leisure

Food production was a motivation for the majority of those who participated in the gardens. Cooking skills and understanding how to use the produce was often mentioned, and it was clear from the participant observations that all three gardens arranged both social and leisure events which involved the preparation of meals for themselves, or as a way to engage with the wider community.

[The garden] ... encourages cooking. We grow a diverse range of crops. Stuff you don’t get in the supermarket like Kohlrabi. And then you find ways to use them’ (participant 6C).



Again, cultural diversity was important in relation to knowledge exchange and food preparation; as one participant from the Granton garden commented:

She's from Kenya and she can plough the garden better and faster than most men because of her farming roots. She plants seeds we have never seen before. She picks leaves of Kale and Chard and she uses them every day in her food, in her cooking. And you go 'I never thought of that' and you try it and gradually you learn more about local and native crops. (participant 2G)

Using the produce and development skills relating to cooking shows how knowledge exchange moves beyond the gardens. It is evident through the organizing and participating in leisure events and social activities. These leisure socials are important aspects of the community garden because they demonstrate community cohesion through food preparation and offer ways in which to communicate the importance of these spaces to the community. The participant observation highlighted the number and frequency of these type of events. They ranged from small food exchanges and barbeques in the gardens themselves to plans for meals in the homes of fellow gardeners.

### Land for the common good

You need to give people access to land so they can grow proper food. ... You should be able to walk across Scotland and eat all the way across it. ... The land provides food, but we don't have ability to get the land to provide the food. It's nonsense because everybody else owns the land and they do what they want with it and we can't do anything with it. It's all about land issues. Everybody should have a right to land and their homes should come with the ability to grow food in it. ... It's nonsense that you have to go to the council to apply for land you should own in the first place (participant 4L)

This participant felt strongly that growing food was a 'right' connected to their right to land, but identified their helplessness because of unequal access to land in Scotland. His feelings tie in with Schmelzkopf's (2002) research, which examines the struggles of sustaining community gardens in New York, relating to the 'right to space' and the 'right to the city'. Schmelzkopf's research highlights how gardens are often seen by council and governments as a barrier to further housing developments and planning. This research suggests that community gardens may come into conflict with council and government projects that focus on maximizing areas for affordable housing and market revenue, as indicated by Schmelzkopf (2002) and Ferris, Norman, and Sempik (2001). This political expression highlights a common theme throughout this research that focuses on using land in communities for a purpose that directly relates back to the individuals and the communities themselves, rather than on council and government agendas such as housing and community planning. Other coordinators and participants had similar opinions on land use and typical of these sentiments is the following quotation:

This is the peoples' land, they have an entitlement to it but most people don't know that. We need to show what we can do with the land and how productive we can be. ... I think the main focus of the garden is a social one, some of the gardeners may be here for producing food but I think that the garden is a symbol of what can be achieved if land is given to the people who are on it. (participant 2C)

The participant from the Leith Croft comments on the symbolic nature of the garden and how meaning is constructed through food production socially (as already discussed), but also as an action of claiming back the common land and showing the productive use of doing that. The common feeling of coordinators and participants that spoke of land reclamation in this way appears to be the notion that the communities can put the land to better use if they had control of it, and would demonstrate this if the ability to do so were made more accessible and transparent.

Reclaiming unused or waste common good land in the communities of Edinburgh appears to be symbolic of community empowerment, and also community control:

[The garden] ... creates community empowerment. Because we are on common good land it's also tapping into land reform which is a pretty big thing in Scotland at the moment. Tapping into the community empowerment bill and land reform legislation. (coordinator 1C)

Often communities are unaware that local councils hold land for their common good. This land is used as public parks and recreational green spaces that people use regularly every day. It also includes former waste areas such as the Leith Croft and neglected green spaces like the community corners in the Granton and Lochend areas. These areas are numerous in many communities around Edinburgh and could be used more by those who live there if they were given the opportunity to demonstrate the productivity that could be achieved, as was observed during the field research in the communities of east Edinburgh.

## CONCLUSIONS

This research study set out to provide a detailed, representational and empirically grounded analysis of the activities of those who participate in community gardens. It reflected and built on the work of a wide variety of authors, each concentrating their research around differing benefits and challenges provided by this activity. These include but are not limited to Kingsley et al. (2009) (physical and mental health), Tidball et al. (2010) (education and knowledge exchange), Porter and McIlvaine-Newsad (2014) (diets and food security), Mackenzie (2016) (land shortages and equitable rights), Starr (2010) (social and economic justice), King (2008) (diversity), and Dunlap et al. (2013) (sense of place). This study used a case study approach by focusing specifically on the perspectives of citizens from three community gardens located in Edinburgh. While the authors recognize the findings will inherently be limited in terms of broader dissemination, it is clear that the salient points that emerged from the study do support the broad literature on community gardens and, consequently, contribute to this growing body of research in a regional studies context.

The paper set out to examine the people in those communities who are trying to make a difference to their own lives, and often the lives of their neighbours, through community garden participation and community development. It was found that food as community reveals the extent to which its production is used as a tool for influencing social and cultural issues in the community, including creating ways for engagement and cohesion, impacting mental health and promoting cultural diversity. These findings support other thematic work by Tidball et al. (2010), Kingsley et al. (2009) and King (2008). This research suggests that an increase of physical health through exercise was not a predominant motivation, but many gardeners spoke of the physical challenges of participation that were often rewarding in various other ways and align with similar findings by Farmer et al. (2014). Often the physical aspects of health were symbolized by what was produced and the methods by which it was grown and later consumed. The food itself was considered healthy, therefore the consumption of it was also considered healthy.

Knowledge exchange and the sharing of skills were also important for many reasons. Its educational reach extended across cultures and even to the youngsters of the community and beyond into the community itself through social events and organized community meals. The educational reach to children was more predominant in this research than in the prior literature, and the east Edinburgh perspective highlights the importance of this. Knowledge exchange and skill sharing were seen to be the main practical motivations of participation by community members.

This research also suggests that the aims and agendas of the community gardens can often be seen as structural barriers to participation, especially from the migrant population, as food production and community engagement take a back seat to the promotion of the garden as a

place of action. This does not necessarily mean that these gardens, as places of action, do not contribute to the importance of community garden development. On the contrary, as a place of action they may be able to address the wider issues such as increasing biodiversity. They also offer participants the opportunity to provide food for themselves, their families and their communities.

The community gardens often benefit from funding. However, the more funding a garden receives, the more it becomes reliant on that funding to continue. Since sustainable funding is uncertain and the administrative burden of applying is often complicated, it requires someone with the knowledge of the process. This puts the community garden into a precarious, often uncertain, position. Whilst food production is the driving force in these gardens, there is a funding paradox due to lack of funding for food production and food practices such as urban food growing.

Using waste or unused land for a purpose that directly affects the community was a strong participant motivation. People's connection to the land exhibits aspects of community empowerment and control; retaking control of public land was seen as a way to alleviate some of the related anxieties of land ownership and land reform, which are presently under review in Scotland.

Of course, implementing a community garden without understanding the needs of the community simply because there is a green space available would be unproductive and ineffective. Instead, communities should be made aware of the potential of these green spaces if they took control of them and chose to use them. Local government could make this process easier by making the information about common good land more transparent. As with all issues that concern government, local council and communities, working together can often be a complex process. This process of collaboration is vital if communities want to show not only what they are capable of from a local level but also what they are all capable of at a national level.

## DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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